

Appl. No. 10/617,603  
Reply to Office Action of April 15, 2005

Docket No. RTN-170AUS

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

- 1 1. (Currently Amended) A computer implemented method of storing ~~and~~ commands,  
2 comprising:  
3       recording a first set of commands to a command queue to provide a first dynamic  
4 snapshot, wherein the first dynamic snapshot corresponds to a set of commands associated with  
5 a first system state;  
6       storing the first dynamic snapshot at a first time;  
7       recording one or more additional sets of commands to the command queue;  
8       storing the one or more additional sets of commands, wherein storing a first one of the  
9 one or more additional sets of commands is spaced in time from storing a second one of the one  
10 or more additional sets of commands by a first storage interval;  
11       eliminating selected ones of overriding redundant, and superfluous commands from the  
12 command queue to provide a second dynamic snapshot, wherein the second dynamic snapshot  
13 corresponds to a set of commands associated with a second system state; and  
14       storing the second dynamic snapshot at a second time, wherein a difference between the  
15 first time and the second time corresponds to a second storage interval.
- 1 2. (Original) The method of claim 1, wherein the first storage interval is less than one second.
- 1 3. (Original) The method of Claim 1, wherein the first storage interval is less than five seconds.
- 1 4. (Original) The method of Claim 1, wherein the first storage interval is less than sixty  
2 seconds.
- 1 5. (Original) The method of Claim 1, wherein the second storage interval is greater than sixty  
2 seconds.

Appl. No. 10/617,603  
Reply to Office Action of April 15, 2005

Docket No. RTN-170AUS

- 1 6. (Original) The method of Claim 1, wherein the second storage interval is greater than five  
2 minutes.
- 1 7. (Original) The method of Claim 1, wherein the second storage interval is greater than ten  
2 minutes.
- 1 8. (Original) The method of Claim 1, wherein the commands include scene graph display  
2 commands associated with a graphical display.
- 1 9. (Original) The method of Claim 1, wherein the commands include two-dimensional display  
2 commands associated with a scene graph and associated with a graphical display.
- 1 10. (Original) The method of Claim 1, wherein the commands are associated with an air traffic  
2 control (ATC) display.
- 1 11. (Original) The method of Claim 1, wherein the recording the first set of commands and the  
2 recording the one or more additional set of commands are adapted to store the first set of  
3 commands and the one or more additional sets of commands in an electronic solid-state  
4 memory.
- 1 12. (Original) The method of Claim 1, wherein the storing the first and second dynamic  
2 snapshots and the storing the one or more additional sets of commands are adapted to store the  
3 first and second dynamic snapshots and the one or more additional sets of commands in a non-  
4 volatile memory.
- 1 13. (Original) The method of Claim 12, wherein the non-volatile memory comprises at least one  
2 of an electronic non-volatile memory and a tape recorder.
- 1 14. (Original) The method of Claim 1, further including:

Appl. No. 10/617,603  
Reply to Office Action of April 15, 2005

Docket No. RTN-170AUS

1 receiving a time of interest, wherein the time of interest is between the first time and the  
2 second time;  
3 retrieving the first dynamic snapshot;  
4 retrieving selected ones of the one or more additional sets of commands, wherein the  
5 selected ones of the one or more additional sets of commands include commands recorded at or  
6 before the time of interest;  
7 appending the selected ones of the one or more sets of commands to the first dynamic  
8 snapshot to provide an intermediate dynamic snapshot associated with the time of interest; and  
9 interpreting the commands associated with the intermediate dynamic snapshot.

1 15. (Original) The method of Claim 14, further including eliminating selected ones of  
2 overriding redundant, and superfluous commands from within the intermediate dynamic  
3 snapshot.

1 16. (Original) The method of Claim 14, wherein the commands include display commands  
2 associated with a scene graph and associated with a graphical display, wherein the interpreting  
3 the commands includes generating the graphical display.

1 17. (Original) The method of Claim 14, wherein the commands include two-dimensional  
2 display commands associated with a scene graph and associated with a graphical display,  
3 wherein the interpreting the commands includes generating the graphical display.

1 18. (Original) The method of Claim 14, wherein the commands are associated with an air traffic  
2 control (ATC) display, wherein the interpreting the commands includes generating the ATC  
3 display.

1 19. (Original) The method of Claim 1, further including:  
2 receiving a time of interest, wherein the time of interest is between the first time and the  
3 second time;  
4 retrieving the first dynamic snapshot;

Appl. No. 10/617,603  
Reply to Office Action of April 15, 2005

Docket No. RTN-170AUS

1 interpreting the first dynamic snapshot  
2 retrieving selected ones of the one or more additional sets of commands, wherein the  
3 selected ones of the one or more additional sets of commands include commands recorded at or  
4 before the time of interest; and  
5 interpreting the selected ones of the one or more additional sets of display commands.

1 20. (Original) The method of Claim 19, wherein the commands include display commands  
2 associated with a scene graph and associated with a graphical display, wherein the interpreting  
3 the first dynamic snapshot includes generating the graphical display, and wherein the interpreting  
4 the selected ones of the one or more additional sets of display commands includes updating the  
5 graphical display.

1 21. (Original) The method of Claim 19, wherein the display commands include two-  
2 dimensional display commands associated with a scene graph and associated with a graphical  
3 display, wherein the interpreting the first dynamic snapshot includes generating the graphical  
4 display, and wherein the interpreting the selected ones of the one or more additional sets of  
5 display commands includes updating the graphical display.

1 22. (Previously Presented) The method of Claim 20, wherein the commands are associated with  
2 an air traffic control (ATC) display, wherein the interpreting the first dynamic snapshot includes  
3 generating the ATC display, and wherein the interpreting the selected ones of the one or more  
4 additional sets of display commands includes updating the ATC display.

1 23. (Previously Presented) A computer program medium having computer readable code  
2 thereon for storing commands, the medium comprising:  
3 instructions for recording a first set of commands to a command queue to provide a first  
4 dynamic snapshot, wherein the first dynamic snapshot corresponds to a set of commands  
5 associated with a first system state;  
6 instructions for storing the first dynamic snapshot at a first time;

Appl. No. 10/617,603  
Reply to Office Action of April 15, 2005

Docket No. RTN-170AUS

1 instructions for recording one or more additional sets of commands to the command  
2 queue;  
3 instructions for storing the one or more additional sets of commands, wherein storing a  
4 first one of the one or more additional sets of commands is spaced in time from storing a second  
5 one of the one or more additional sets of commands by a first storage interval;  
6 instructions for eliminating selected ones of overriding redundant, and superfluous  
7 commands from the command queue to provide a second dynamic snapshot, wherein the second  
8 dynamic snapshot corresponds to a set of commands associated with a second system state;  
9 instructions for storing the second dynamic snapshot at a second time as a second  
10 dynamic snapshot, wherein a difference between the first time and the second time corresponds  
11 to a second storage interval.

1 24. (Previously Presented) The computer program medium of Claim 23, wherein the commands  
2 include display commands associated with a scene graph and associated with a graphical display.

1 25. (Previously Presented) The computer program medium of Claim 23, wherein the commands  
2 include two-dimensional display commands associated with a scene graph and associated with a  
3 graphical display.

1 26. (Previously Presented) The computer program medium of Claim 23, wherein the commands  
2 are associated with an air traffic control (ATC) display.

1 27. (Previously Presented) The computer program medium of Claim 23, wherein the recording  
2 the first set of commands and the recording the one or more additional set of commands are  
3 adapted to store the first set of commands and the one or more additional sets of commands in  
4 an electronic solid-state memory.

1 28. (Previously Presented) The computer program medium of Claim 23, wherein the storing the  
2 first and second dynamic snapshots and the storing the one or more additional sets of commands

Appl. No. 10/617,603  
Reply to Office Action of April 15, 2005

Docket No. RTN-170AUS

3 are adapted to store the first and second dynamic snapshots and the one or more additional sets  
4 of commands in a non-volatile memory.

1 29. (Previously Presented) The computer program medium of Claim 28, wherein the non-  
2 volatile memory comprises at least one of an electronic non-volatile memory and a tape recorder.

1 30. (Previously Presented) The computer program medium of Claim 23, further including:  
2 instructions for receiving a time of interest, wherein the time of interest is between the  
3 first time and the second time;  
4 instructions for retrieving the first dynamic snapshot;  
5 instructions for retrieving selected ones of the one or more additional sets of commands,  
6 wherein the selected ones of the one or more additional sets of commands include commands  
7 recorded at or before the time of interest;  
8 instructions for appending the selected ones of the one or more sets of commands to the  
9 first dynamic snapshot to provide an intermediate dynamic snapshot associated with the time of  
10 interest; and  
11 instructions for interpreting the commands associated with the intermediate dynamic  
12 snapshot.

1 31. (Previously Presented) The computer program medium of Claim 30, further including  
2 instructions for eliminating selected ones of overriding redundant, and superfluous commands  
3 from within the intermediate dynamic snapshot.

1 32. (Previously Presented) The computer program medium of Claim 30, wherein the commands  
2 include display commands associated with a scene graph and associated with a graphical display,  
3 wherein the interpreting the commands includes generating the graphical display.

1 33. (Previously Presented) The computer program medium of Claim 30, wherein the commands  
2 include two-dimensional display commands associated with a scene graph and associated with a

Appl. No. 10/617,603  
Reply to Office Action of April 15, 2005

Docket No. RTN-170AUS

1 graphical display, wherein the interpreting the commands includes generating the graphical  
2 display.

1 34. (Currently Amended) The computer program medium of Claim 30, wherein the commands  
2 are associated with an air traffic control (ATC) display, wherein the interpreting the commands  
3 includes generating the ATC display.

1 35. (Previously Presented) The computer program medium of Claim 23, further including:  
2 instructions for receiving a time of interest, wherein the time of interest is between the  
3 first time and the second time;  
4 instructions for retrieving the first dynamic snapshot;  
5 instructions for interpreting the first dynamic snapshot  
6 instructions for retrieving selected ones of the one or more additional sets of commands,  
7 wherein the selected ones of the one or more additional sets of commands include commands  
8 recorded at or before the time of interest; and  
9 instructions for interpreting the selected ones of the one or more additional sets of display  
10 commands.

1 36. (Previously Presented) The computer program medium of Claim 35, wherein the display  
2 commands include two-dimensional display commands associated with a scene graph and  
3 associated with a graphical display, wherein the instructions for interpreting the first dynamic  
4 snapshot include instructions for generating the graphical display, and wherein the instructions  
5 for interpreting the selected ones of the one or more additional sets of display commands include  
6 instructions for updating the graphical display.

1 37. (Previously Presented) A system for storing commands, comprising:  
2 a recording proxy adapted to intercept the commands;  
3 a dynamic snapshot generator coupled to the recording proxy for providing dynamic  
4 snapshots, wherein each dynamic snapshot corresponds to a respective sets of commands and  
5 each set of commands is associated with a system state;

Appl. No. 10/617,603  
Reply to Office Action of April 15, 2005

Docket No. RTN-170AUS

1 a command interface coupled to the recording proxy for providing commands;  
2 a storage module coupled to the command interface and to the dynamic snapshot  
3 generator, for storing the commands and for storing the dynamic snapshots.

1 38. (Previously Presented) The system of Claim 37, wherein the commands include display  
2 commands associated with a scene graph and associated with a graphical display.

1 39. (Previously Presented) The system of Claim 37, wherein the commands include two-  
2 dimensional display commands associated with a scene graph and associated with a graphical  
3 display.

1 40. (Previously Presented) The system of Claim 37, wherein the commands are associated with  
2 an air traffic control (ATC) display.

1 41. (Previously Presented) The system of Claim 37, wherein the dynamic snapshot generator  
2 includes:

3 a command queue having:

4 a command stack portion for recording commands; and

5 a dynamic snapshot portion for recording commands associated with a system  
6 state, and

7 a processor adapted to combine the commands in the command queue to eliminate  
8 selected ones of overriding, redundant, and superfluous commands in the command queue.

1 42. (Previously Presented) The system of Claim 41, wherein the storage module is adapted to  
2 store commands associated with the command stack portion and to store commands associated  
3 with the dynamic snapshot portion.

1 43. (Previously Presented) The system of Claim 41, wherein the storage module is adapted to  
2 provide display commands associated with the command stack portion and the display  
3 commands associated with the dynamic snapshot portion for generating a graphical display.